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## The Polyporaceae of North America — IX. *Inonotus*, *Sesia* and monotypic genera

WILLIAM A. MURRILL

Continuing the work begun in article VIII of this series upon colored sessile forms, an attempt is here made to treat in their proper relations plants with brown context and spores, constituting the genus *Inonotus*, and plants with brown context, hyaline spores and daedaleoid or lamelloid tubes, constituting the genus *Sesia*. A few genera are also added that contain only a single species each.

INONOTUS Karst. Medd. Soc. Faun. et Fl.

Fenn. 5: 39. 1879

*Inoderma* Karst. Medd. Soc. Faun. et Fl. Fenn. 5: 39. 1879.

*Inodermus* Quél. Ench. 173. 1886.

This genus was based upon four species, *I. cuticularis* (Bull.), *I. hispidus* (Bull.), *I. unicolor* (Schw.) and *I. hypococcinus* (Berk.). The two last can hardly be considered congeners of the first. The type species is *I. cuticularis*, not found in America. Karsten in later publications included also *I. fibrillosus*, *I. vulpinus*, *I. triqueter*, *I. radiatus* and *I. nidulans* in the genus, although some of them have hyaline spores. These he divided into two groups, one in which the pileus is spongy-fleshy and anoderm and the other containing species with a dry, thin, fibrous cuticle. To the first group, such species as *I. cuticularis* and *I. hispidus* belonged, while *I. radiatus* and *I. fibrillosus* were in the second group.

This second group at first constituted the genus *Inoderma* of Karsten, but the name is untenable, because preoccupied by *Inoderma* of S. F. Gray for a genus of lichens. Quélet's genus *Inodermus* was not only preoccupied so far as the name was concerned, but was founded upon *I. hispidus* (Bull.), one of the original typical species of *Inonotus* Karst. The species here included in the genus *Inonotus* are brown, sessile, usually anoderm, with fibrous context and brown-tinted spores. There is considerable variation in spore coloration, the spores of some species being

very deeply colored, while others are so pale as to appear almost hyaline, especially when not fully matured.

The largest species is *I. hirsutus*, sometimes over 30 cm. in diameter, while the smallest, *I. pusillus*, is rarely over two or three millimeters across. As regards the distribution of our species, two, *I. hirsutus* and *I. radiatus*, occur in Europe and in temperate North America; three others, *I. perplexus*, *I. dryophilus* and *I. amplexatus*, appear to be confined to temperate regions of North America; while the remaining six are known only from certain localities in tropical America.

#### Synopsis of the North American species

- |  |                            |
|--|----------------------------|
| 1. Spores deep brown in color.   | 2.                         |
| Spores faintly tinted with brown.  | 5.                         |
| 2. Surface of pileus hirsute, tubes luteous, margin obtuse; plants of large size and two centimeters or more in thickness. | 1. <i>I. hirsutus</i> .    |
| Surface of pileus conspicuously tomentose, margin acute; plants of medium size and one centimeter or less in thickness.    | 2. <i>I. perplexus</i> .   |
| Surface of pileus glabrous or finely tomentose.  | 3.                         |
| 3. Pileus 8 cm. or more in width, rigid, ferruginous throughout, margin rather obtuse.                                     | 3. <i>I. dryophilus</i> .  |
| Pileus 5 cm. or less in width.   | 4.                         |
| 4. Surface of pileus very rimose, tubes 2 cm. long.  | 4. <i>I. texanus</i> .     |
| Surface of pileus rugulose and zonate, but not rimose, tubes 1 cm. long.   | 5. <i>I. jamaicensis</i> . |
| 5. Pores scarcely visible to the unaided eye.  | 6.                         |
| Pores conspicuous.   | 7.                         |
| 6. Pileus thick, azonate, margin obtuse, hymenium dull.  | 6. <i>I. corrosus</i> .    |
| Pileus thin, zonate, margin very sharp, hymenium glistening.   | 7. <i>I. Wilsonii</i> .    |
| 7. Plants minute, only a few millimeters across, erumpent from lenticels of dead twigs.                                    | 8. <i>I. pusillus</i> .    |
| Plants of medium size.   | 8.                         |
| 8. Surface soft, anoderm, sporophores growing on living shrubs, often encircling the smaller branches.                     | 9.                         |
| Surface hard, becoming encrusted, sporophores found on decaying wood.  | 9. <i>I. radiatus</i> .    |
| 9. Hymenium very concave, umbrinous, margin sharp and depressed.   | 10. <i>I. amplexatus</i> . |
| Hymenium plane or nearly so, becoming almost black, margin rather blunt and not depressed.                                 | 11. <i>I. fruticum</i> .   |

#### 1. *Inonotus hirsutus* (Scop.)

*Boletus hirsutus* Scop. Fl. Carn. ed. 2. 2: 468. 1772.

*Boletus spongiosus* Lightf. Fl. Scot. 1033. 1777.

*Boletus hispidus* Bull. Herb. Fr. pl. 210. 1784. pl. 493. 1791.

*Boletus flavus* Poll. Fl. Ver. **3**: 607. 1824.

*Polyporus hispidus* Fr. Syst. Myc. **1**: 362. 1821.

*Polyporus endocrocinus* Berk. Lond. Jour. Bot. **6**: 320. 1847.

*Inonotus hispidus* Karst. Medd. Soc. Faun. et Fl. Fenn. **5**: 39. 1879.

*Inodermus hispidus* Quéf. Ench. 172. 1886.

As one would naturally suppose, such a large and attractive plant as this did not long remain unnoticed by the early mycologists. Micheli refers to it as the "hairy and obscure agaric with golden hymenium." Batarra figures it and calls it *Agaricus favaginosus viridus*. Scopoli describes it as a *Boletus* with reddish hispid surface and white or reddish hymenium occurring on the trunks and branches of trees; and he assigns to it the specific name *hirsutus*. Bulliard not only described it well under his name *Boletus hispidus*, the name by which it is best known, but he also made two excellent plate figures of it showing its stages and varieties. Under one name or another it has received attention from nearly all writers who have treated this group.

To the stranger in Europe there are few more attractive species among the fungi. It grows in considerable abundance on the sycamore, ash, oak, beech, walnut, etc., often infesting a large part of the trunk and emerging in brilliantly colored sporophores from wounds made in pruning or other openings into the heartwood. These sporophores sometimes measure a foot and a half in diameter and are clothed above with a dense coat of long reddish hairs which become black with age. The hymenium is at first white but soon becomes yellow, yielding a yellow dye when treated with water.

In Sweden, this species is rare and occurs only on ash. It is also rare in the northern United States, but is somewhat more common farther south; although it is by no means so abundant here as in Europe. Its principal host in America is the oak. A year or two ago I collected seven large sporophores on a decayed spot in a living oak trunk at Fort Lee, New Jersey. This was in September and the fruit-bodies were already much decayed. Plants collected by Lea on hickory in Ohio in the latter part of August, 1844, were so advanced as to seem new to Berkeley, who named them *Polyporus endocrocinus*, remarking that the species was

allied to *P. Schweinitzii*, but was distinguished by its saffron-colored substance and strigose-squamose pileus. The two specimens collected are still at Kew and are practically identical in form and appearance with my own collections made in September. The species has also been found by Commons in Delaware, Ellis in New Jersey, Memminger in North Carolina and Dr. Martin in Florida. European exsiccati are too numerous to mention here.

## 2. *Inonotus perplexus* (Peck)

*Polyporus perplexus* Peck, Rept. N. Y. State Mus. Nat. Hist. 49 : 19. 1896.

This species was described from plants collected by Peck on beech trunks in Oneida County, New York. It is hairy-tomentose to setose-hispid, resembling *I. cuticularis* and *I. hispidus*. Its spores are ferruginous and broadly elliptical, being smaller than those of *I. hispidus*. The same plant was distributed by Shear in his New York Fungi, no. 110, under the name of *Polyporus radiatus*. His specimens were found at Alcove, New York, on a dead beech trunk. Plants were recently determined for me by Prof. Peck, although he thinks the types were destroyed while the herbarium was housed in the state capitol.

The present species is well named *P. perplexus*, since it has troubled more than one mycologist and collector during the last quarter of a century, some calling it *P. cuticularis* because of its hairy surface and others passing it for *P. radiatus* on account of its general appearance and evident close relationship with that species. During the past summer I had the opportunity of studying a large number of the fresh and growing sporophores on the trunk of a living sycamore maple in Bedford City, Virginia; and found the velvety, bright ferruginous surface and the sharp, sterile margin very characteristic. It seems to range much farther south than *I. radiatus* and is also more commonly collected, although neither can be said to be abundant.

Specimens are at hand from Pennsylvania, *Stevenson*; Delaware, *Commons*; Maine, *Hodson*; Georgia, *Underwood*; Virginia, *Murrill 1005*; Alabama, *Earle*; Louisiana, *Langlois*; Mississippi, *Tracy*. The hosts given are oak, spruce (?), and maple. It occurs on trunks and logs of either dead or decaying trees.

### 3. *Inonotus dryophilus* (Berk.)

*Polyporus dryophilus* Berk. Lond. Jour. Bot. 6: 321. 1847.

The types of this species were sent from Ohio by Lea, who collected them on living trunks of red oak. The fruit-body is large and rigid, anoderm, ferruginous throughout, whitened externally by a fine canescence, with thin, angular, brown pores. The species resembles *Polyporus dryadeus*, but is smaller and more rigid and has larger and differently colored pores. In some respects it is allied to *Hapalopilus gilvus*, but the spores are deep ferruginous instead of hyaline and the pileus is much thicker, with a more obtuse margin. Excellent specimens are to be seen in the Ellis collection, which were found by Morgan in Ohio in 1885. He reports this species as occurring at the base of living oak trees and on oak logs.

### 4. *Inonotus texanus* sp. nov.

Pileus ungulate, attached by the vertex,  $3 \times 5 \times 4$  cm.; surface fulvous to fuliginous, concentrically and radially rimose, especially in age, the separated areas imbricated; margin very obtuse, concolorous: context corky, concentrically banded, fulvous to umbrinous, very thin, only one-tenth the length of the tubes in thickness; tubes 3 cm. long, 2–3 to a mm., tawny chestnut, polygonal, edges thin, entire; spores ovoid, smooth, very dark brown, 1–2-guttulate,  $8 \times 10 \mu$ .

The above description is based upon a single rather old sporophore collected by Underwood on a mesquite (?) tree near Austin, Texas, November 24, 1891. Although young stages are not represented, still the characters as shown are very distinct.

### 5. *Inonotus jamaicensis* sp. nov.

Pileus dimidiate to triquetrous, convex, sessile, attached by a broad base, simple or imbricate,  $2 \times 3 \times 1-1.5$  cm.; surface encrusted, minutely rugose, cinereous behind, marked toward the margin with dark-brown or black zones; margin regular, often obtuse: context fibrous, fulvous, only a few millimeters thick; tubes 1 cm. long, 4 to a mm., larger by confluence, fulvous, polygonal to irregular, edges thin, entire; spores ovoid, smooth, deep ferruginous, 1–2-guttulate, very copious,  $5 \times 7 \mu$ .

The type plants of this species were collected by Underwood on the Mabess river, Jamaica, at an altitude of 3,000 ft., April 23, 1903. None of the young stages was found. Judging from the

fruit-bodies, the host must have been the small dead or dying branches of some broad-leaved tree.

#### 6. *Inonotus corrosus* sp. nov.

Pileus conchate, clasping, simple or imbricate,  $3 \times 5 \times 1-4$  cm.; surface ferruginous to fulvous, furrowed and much corroded in age; margin entire, obtuse, tomentose, honey-yellow: context thick, spongy, fibrous, ferruginous, perforated by insects soon after maturity; tubes very short, only 1 mm. long each season, 8 to a mm., fulvous, subcylindrical, edges entire, obtuse to acute; spores lenticular, smooth, pale ferruginous,  $4 \mu$  in diameter,  $1 \mu$  thick, hyphae deep ferruginous.

The type plants of this species were collected by Earle, *no.* 203, near Hope Gardens, Jamaica, October 27, 1902. They grew upon a dead vine clinging to a tree. Two or three years growth were represented in the much weathered and wormeaten central parts of the sporophores, while the latest growths stood out in marked contrast. The flattened appearance of the spores may be due to desiccation, but this character is fairly constant. A single sporophore of this species was also collected in the island of New Providence by Britton, *no.* 246, Aug. 24, 1904, growing on a small dead twig.

What appear to be specimens of this same plant are placed at Kew under *Polyporus chrysites* Berk., a species described from the region of the Rio Negro river in Brazil as thin and leathery, while the various plants bearing that name at Kew are mostly thick and soft or even hard and perennial. Specimens collected in Cuba by Wright should probably belong to *I. corrosus* instead of to *P. chrysites*.

#### 7. *Inonotus Wilsonii* sp. nov.

Pileus dimidiate, applanate, sessile,  $2-3 \times 4-6 \times 0.5$  cm.; surface anoderm, velvety-tomentose, fulvous, marked with a few shallow concentric furrows; margin thin, entire, concolorous, sulcate, deflexed in drying: context soft, punky, homogeneous, ferruginous-fulvous, 1-3 mm. thick, separated from the tubes by a very thin black layer; hymenium ferruginous, glistening, tubes 1-2 mm. long, 6-9 to a mm., isabelline within, mouths polygonal, regular, edges thin, entire; spores lenticular, smooth, pale ferruginous,  $3-4 \mu$  in diameter,  $1-1.5 \mu$  thick.

This species was collected by Percy Wilson, *no.* 438, on decay-

ing logs in Honduras, Feb. 16, 1903. It resembles some plants called *P. chrysites* at Kew, but is quite distinct from that species. The shape of the spores as given above may be due to extreme desiccation.

8. *Inonotus pusillus* sp. nov.

Pileus sessile, convex, flabelliform, tapering to a narrow base, erumpent from lenticels,  $2 \times 2 \times 0.5-1$  mm.; surface ferruginous to fulvous, silky-striate, subzonate, shining, margin pallid, acute, often depressed: context thin, fibrous, ferruginous; tubes umbrinous, comparatively large, 2-4 to a mm., polygonal, becoming irregular, much exceeding in length the thickness of the context; mouths at first whitish-pulverulent, dissepiments thin, entire: spores small, ovoid,  $3.5 \times 5 \mu$ , pale ferruginous, copious, hyphae concolorous.

This species is based upon plants collected by Dr. Edward Palmer, no. 1520, at Manzanillo, Mexico, in 1892. The tiny brown sporophores were found in large numbers emerging from the lenticels of small dead branches of *Jacquinia*. It was apparently recognized as a new species by Ellis and Galloway and distributed by them jointly under the genus-name *Trametes*, and later listed by Patouillard (Tax. Hymen. 101. 1900) as a species of *Xanthochrous*. The tentative name first proposed for the species is here made use of, but according to present usage I am, unfortunately, not permitted to cite the authors, since no description accompanied the name.

This is one of the very smallest plants met with in the *Polyporaceae*. Two other tiny plants are of interest in this connection, *Porodiscus pendulus*, which is also erumpent from lenticels, but has hyaline spores; and *Coltriciella dependens*, which is more like the present species in general appearance and structure, but is stipitate instead of sessile, having the stipe attached to the vertex of the pileus like the handle of a tiny bell.

9. *INONOTUS RADIATUS* (Sowerby) Karst.

*Boletus radiatus* Sowerby, Eng. Fung. pl. 196. 1799.

*Polyporus radiatus* Fr. Syst. Myc. 1: 369. 1821.

*Polyporus glomeratus* Peck, Rept. N. Y. State Mus. Nat. Hist.

24: 78. 1873.

*Inoderma radiatum* Karst. Medd. Soc. Faun. et Fl. Fenn. 5: 39.

1879.



*Inonotus radiatus* Karst. Rev. Myc. 3: 19. 1881.

This species was first described from specimens collected on a decaying stump in Sussex, England. In the description, Sowerby refers to its habit of emerging from the substratum in a small woolly mass and then growing in a radiating manner with this mass as a center. He describes the pileus as zoned, with yellow margin, and the texture as woody. Berkeley mentions hazel stems as its favorite host in England. In Sweden it is abundant on hazel and birch, while in Germany and Austria it is found mostly on alder, which last is its most common host in America.

The form found on a prostrate sugar maple trunk and described as *P. glomeratus* by Peck, in 1873, hardly differs sufficiently from the typical form to constitute a distinct species. With the two forms before me, I can find no specific distinguishing character either with the unaided eye or with the microscope. This similarity was long since noticed and published by Cooke. The relations of *Polyporus scrobiculatus*, and various forms included in *Inonotus radiatus* by Karsten, to the typical form of this species do not come within the scope of the present paper.

Specimens are at hand from England, *Plowright*; Berlin, *Magnus, Hennings*; Tyrol, *Bresadola*; Sweden, *Murrill*; Canada, *Macoun*; Connecticut, *Underwood*; New York, *Peck, Earle*.

#### 10. *Inonotus amplectens* sp. nov.

Pileus hemispherical, clasping, concave beneath, 1–3 cm. in diameter, 1–2 cm. thick; surface soft, velvety, dark yellowish orange, margin at first obtuse, entire, straw-colored, becoming thin, undulate or toothed, deflexed and concolorous: context soft, spongy-fibrous, ferruginous; hymenium at first honey-yellow, becoming umbrinous, tubes 2–4 mm. long, 2–4 to a mm., larger by confluence, umbrinous within, mouths at first closed by a yellowish membrane, subcircular, regular, entire, becoming large, irregular, coarsely toothed and concentrically split into irpiciform plates; spores ellipsoidal, smooth, hyaline, 1–2-guttulate,  $4 \times 6 \mu$ .

Type specimens of this plant were collected by R. M. Harper, 1990a, on the Ocmulgee river near Lumber City, Georgia, Sept. 11, 1903. The fruit-bodies were found encircling living twigs of *Asimina parviflora* (?). The upper surface of the plant resembles *Inonotus fruticum* (B. & C.), but the hymenium is very distinct.

11. *Inonotus fruticum* (B. & C.)

*Polyporus fruticum* B. & C. Jour. Linn. Soc. Bot. 10: 310. 1868.

This species was named from its habit of growing upon shrubs. In shape it varies from thin and dimidiate to nearly spherical, according to its position on the branch and the size of the branch. If on a small twig it frequently encircles it. The pileus is very soft and spongy and the pores become almost black. Orange and oleander are mentioned as hosts. Several well-preserved specimens are among Wright's Cuban collections at Kew.

## SPECIES INQUIRENDÆ

*Polyporus aureonitens* Pat. & Peck, Rept. N. Y. State Mus. Nat. Hist. 42: 25. 1889.

This species is based on material collected in New York by Peck and described by Patouillard. It occurs on birch, alder and maple. There are several specimens of it in the herbarium here collected in Massachusetts, Connecticut and New York. In his original publication, Peck says it is related to *P. radiatus*, but is distinguished by its paler color, often lineate-zoned pileus and paler spores. In a recent letter to me, Dr. Peck distinguishes *P. glomeratus* from *P. aureonitens* as follows: "*P. glomeratus* differs from *P. aureonitens* in its darker colors, more uneven surface of the pileus, entire absence of concentric lines or narrow zones on the surface of the pileus, which is more irregular and wavy on the margin, and never shining. Its spores in mass are of a brighter, richer, yellow color. The two are readily distinguished at sight by any one who has seen them growing."

By referring to Sowerby's description of the young stages of *P. radiatus*, it will be seen that the zonate pileus and yellow margin are present in that species. Also excellent European specimens from Bresadola and others, called by them *young P. radiatus*, seem to differ in no particular from New York specimens of *P. aureonitens*. It can hardly be imagined that two such eminent mycologists as Peck and Patouillard could have confused American and European species in this way, but they may not have had at hand good material of the young stages for comparison. In view of the above facts, I have thought it best to defer the settle-

ment of the question at least until I can study our American form in the field.

SESIA Adans. Fam. 2: 10. 1763

*Serda* Adans. Fam. 2: 11. 1763.

*Gloeophyllum* Karst. Hattsv. 2: 79. 1882.

*Lenzitina* Karst. Finlands Basidsv. 337. 1889.

The genus *Sesia* was founded upon Vaillant's figures of *S. hirsuta* (Schaeff.) drawn from specimens collected on the timbers of a boat at St. Cloud, Paris. The genus *Serda* is based upon a resupinate form of the same species collected at the same time and place and figured in the same work. In establishing the genus *Gloeophyllum*, Karsten overlooked Adanson's genera already founded and later even overlooks or purposely changes his own generic name to *Lenzitina*. All four names above mentioned are strictly synonymous, being founded on the same type species. Karsten listed three other European species, *L. abietina* (Bull.), *L. cinnamomea* (Fr.) and *L. septentrionalis* Karst., as congeners of the type.

The species of this genus have white spores, brown substance and normally daedaleoid or lamelloid tubes. Abnormal poroid forms quite frequently occur. All the species are found on decaying wood, and, as is often the case, some grow only on the wood of conifers, while others are confined to deciduous wood. *S. hirsuta* is abundant in the northern hemisphere on coniferous wood of all kinds, *S. Berkeleyi* is rare on coniferous wood in tropical America; *S. pallidofulva* is abundant in North America on wood of deciduous trees, while its place is taken in tropical America by *S. striata*. The species are all of medium size, easily distinguished by striking characters.

#### Synopsis of the North American species

- |   |                             |
|---|-----------------------------|
| 1. Context ferruginous to chestnut.   | 2.                          |
| Context avellaneous to umber.   | 3.                          |
| 2. Surface hirsute.   | 1. <i>S. hirsuta</i> .      |
| Surface finely tomentose or glabrous.   | 2. <i>S. Berkeleyi</i> .    |
| 3. Furrows broad, a millimeter or more in width, pileus very thin, multizonate.                     | 3. <i>S. striata</i> .      |
| Furrows narrow, only a half of a millimeter in width, pileus rather thick, usually devoid of zones. | 4. <i>S. pallidofulva</i> . |

I. *SESIA* *HIRSUTA* (Schaeff.) Murrill

- Agaricus hirsutus* Schaeff. Fung. Hist. pl. 76. 1762.  
*Agaricus saepiarius* Wulf. in Jacq. Collect. 1: 347. 1786.  
*Agaricus boletiformis* Sowerby, Eng. Fung. pl. 418. 1814.  
*Dacdalea saepiaria* Fr. Obs. Myc. 1: 105. 1815.  
*Lenzites saepiaria* Fr. Epicr. 407. 1838.  
*Lenzites rhabarbarina* B. & C. Ann. Mag. Nat. Hist. II. 12: 428.  
1858.—Grevillea, 1: 35. 1872.  
*Sesia hirsuta* Murrill, Jour. Myc. 9: 88. 1903.

This species is very abundant in the north temperate zone on logs, stumps and various other decaying wood of pine, fir, spruce, hemlock, juniper and other coniferous trees. It varies considerably in its wide range. In the higher regions of Colorado and adjoining states, for example, it is large and coarse and almost shaggy; while in the southeastern states, on the other hand, it is thinner and less densely hirsute than the typical European form, with more delicate, easily lacerated gills and a somewhat differently colored surface. The latter form was described from South Carolina by Berkeley and Curtis as *Lenzites rhabarbarina*, but I cannot distinguish it specifically from many of the typical specimens of *S. hirsuta*. It has been quite frequently collected in the South by Earle, Langlois, Britton, Schrenk and others. Another form, called *var. porosa* by Peck, is very distinct and would constitute a good species if it could be proven to be constant. In one instance Peck found a number of specimens on a single pine trunk that were all alike poroid. Further observation might establish a definite form found sometimes alone and sometimes growing with the species under consideration.

From the large list of specimens examined in connection with this study the following are listed to show the range of the species: Canada, *Macoun, Dearness*; New York, *Peck, Jelliffe, Underwood*; Maine, *Miss White*; New Jersey, *Ellis*; Connecticut, *Miss White*; Ohio, *Morgan*; Colorado, *Underwood & Selby*; Montana, *Rydberg & E. Bessey, Anderson*; Tennessee, *Murrill 689*; Virginia, *Murrill 121, 152*; Alabama, *Earle, Schrenk*; Florida, *Britton*; Louisiana, *Langlois*; Sweden, *Murrill*; Switzerland, *Murrill*; Tyrol, *Bresadola, Murrill*.

2. *Sesia Berkeleyi* (Sacc.)

*Daedalea rhabarbarina* Berk. & Cooke, Grevillea, 6: 130. 1877 ;  
not *D. rhabarbarina* Mont.

*Daedalea Berkeleyi* Sacc. Syll. Fung. 6: 381. 1888.

This species was described from specimens collected on pine stumps near Gainesville, Florida. The fruit-body is larger than in any other American species and the surface is only slightly tomentose, becoming glabrous with age. The margin is much lighter than the surface, being tawny-orange in color and contrasting vividly with the dark umber of the older growth. It is also more porous than most species of *Sesia*, the tubes rarely becoming more than sinuous, though it is sometimes lamellate in parts of the tropics where the fruit-body grows quickly. The only specimens at hand are those collected by C. G. Lloyd in Florida and by Smith in Nicaragua and Mexico.

3. *Sesia striata* (Sw.)

*Agaricus striatus* Sw. Prodr. 148. 1788.—Fl. Ind. Occ. 3: 1920.  
1806.

*Daedalea striata* Fr. Syst. Myc. 1: 334. 1821.

*Lenzites striata* Fr. Epicr. 406. 1838.

*Lenzites protracta* Fr. Nov. Symb. 45. 1851.

This species was the first of two plants listed by Swartz in his *Prodromus* under the genus *Agaricus*, the second being *Schizophyllum alneum*, also common in Jamaica. The brief description, "*A. acaulis, convexus ferrugineus pubescens, margine integro, lamellis alternis interruptis cinereis*," is, as usual, much amplified in his later work.

Specimens from Mexico, still to be seen in the Fries herbarium at Upsala, were described by Fries as *L. protracta*, a name which has been generally assigned in Europe to a very different plant. Fries also called some of the Mexican collections of this species *L. umbrina*.

*Sesia striata* is quite abundant on decaying wood in various parts of tropical America, as the following partial list of specimens will show: Colombia, *Baker*; Nicaragua, *Smith*; Honduras, *Wilson* 200, 276; Mexico, *Smith*; Cuba, *Underwood & Earle* 503, 740, 750, 1526, 1562, *Shafer*; Jamaica, *Underwood* 740, *Earle* 82,

96, 118, 145, 161, 180; Porto Rico, *Earle* 53; New Providence, *Mrs. Britton*; Florida, *C. G. Lloyd*.

#### 4. *Sesia pallidofulva* (Berk.)

*Daedalea pallidofulva* Berk. Hook. Lond. Jour. **6**: 322. 1847.  
*Lenzites vialis* Peck, Rept. N. Y. State Mus. Nat. Hist. **26**: 67.  
 1874.

This species was described from material collected by Lea in Ohio in 1842. The type plants were taken from a dead log in a log fence in March. According to Berkeley, it stands exactly intermediate between *Daedalea* and *Lenzites*. Specimens sent to Fries by Berkeley are still to be seen in the herbarium at Upsala and they correspond in all points with the plant known as *Lenzites vialis* Peck, described from specimens found on railroad ties in New York by Peck in 1874.

The present species is a very common one in the United States, occurring abundantly on railroad ties and other dead timber of oak, willow, ash and other deciduous trees and more rarely on coniferous wood; though the broad general distinction between this species and *S. hirsuta* in regard to host usually holds good, the former being common on coniferous wood and the latter on deciduous wood. In appearance, there is considerable difference in the two species, *S. pallidofulva* being less brightly colored, and less distinctly zoned, with the furrows closer, shorter and more porous. The margin also is white when fresh and turns dark when bruised. There is a close resemblance between this species and *L. trabea* (Pers.) Fr., which occurs on deciduous wood in Europe.

The following specimens are at hand: Canada, *Dearness*; New Jersey, *Ellis*; New York, *Barnhart*, *Murrill*, *Peck*; Ohio, *Morgan*, *C. G. Lloyd*; Indiana, *Underwood*; Louisiana, *Langlois*; Kentucky, *Miss Price*; Tennessee, *Murrill* 494, 495, 542, 579; Iowa, *Macbride*, *Holway*; Pennsylvania, *Rau*, *Banker*.

#### SPECIES INQUIRENDÆ

*Lenzites mexicana* Mont. Ann. Sci. Nat. II. Bot. **20**: 360. 1843. Collected on dead wood in the province of Oaxaca, Mexico, by Andrieux. Apparently a stipitate and otherwise abnormal form

of *S. striata*, but Montagne is decidedly opposed to this opinion and specimens are not at hand to settle the question. Compare his remarks on this point:

“Si l'on ne considère que l'hyménium de ce *Lenzites*, il est évident qu'on le distinguera mal du *L. striata*; mais si l'on observe la disposition du duvet dressé et comme congelé qui forme les zones concentriques, la profondeur des sillons qui séparent ces zones, et l'aspect rugueux et peluché qui en résulte, caractères que je ne rencontre dans aucun des nombreux individus du *L. striata*, on se convaincra promptement que, quoique voisines, ces deux espèces ne sauraient être confondues.”

*Daedalea Burserae* Pat. Jour. de Bot. **3**: 341. 1889. Described from plants found on rotten wood of *Bursera gummiifera* in Martinique by Duss. It is said by the author to be easily distinguished from all its congeners by the yellow powder which covers its pores in the young stages. I have not seen the type plants.

*Daedalea jamaicensis* P. Henn. Hedw. **37**: 281. 1898. Collected on dead wood at Port Antonio, Jamaica, and thus described:

“Pileo suberoso-spongioso, dimidiato, sessile, interdum imbricato, zonato sulcatoque rugoso, rufo-brunneo vel atro-violaceo nigricante, zonis obscurioribus, margine pallidiori, acuto; intus cinnamomeo; hymenio poroso-labyrinthiformi vel sinuoso-lamellosa, subochraceo vel subcinerescente.”

This species is very near to *Sesia Berkeleyi*. Further study of the type plants, however, is necessary in order to decide whether or not the two species are synonymous.

ISCHNODERMA KARST. Medd. Soc. Faun. et

Fl. Fenn. **5**: 38. 1879

This genus was founded upon *Isch. resinosum* (Schrad.) and four other European species, the one here mentioned being the nomenclatorial type. Karsten describes the genus as follows:

“Receptaculum pileatum, sessile, primitus subcarnoso-succosum dein induratum, crusta tenuiore tectum. Hymenium heterogoneum. Pileus azonus. Pori integri, demum subsecedentes.”

### ***Ischnoderma fuliginosum* (Scop.)**

*Boletus fuliginosus* Scop. Fl. Carn. ed. 2. **2**: 470. 1772.

*Boletus rubiginosus* Schrad. Spic. Fl. Ger. 168. 1794.

*Boletus resinosus* Schrad. Spic. Fl. Ger. 171. 1794.

*Trametes benzoina* Fr. Epicr. 489. 1838.—Icon. pl. 483. f. 2.

This large and striking species was originally described from Carniola by Scopoli. It is quite abundant in temperate regions of Europe and North America on fallen trunks of basswood, beech, maple, fir, spruce, etc. On account of its habit of growing beneath logs, the fruit-bodies often persist in a good state of preservation until the following spring. Logs are frequently found entirely covered on the under side with these extensive hymenophores. Whether the form found on coniferous wood is the same as that occurring on hard wood is an old question. There seems to be usually some difference in size and color, but after examining a large assortment of specimens, it seems impossible to distinguish the forms specifically either in this country or in Europe. More specimens from coniferous trees in this country would doubtless throw light on the question.

The following specimens have been examined in the Garden herbarium: Ell. N. A. Fung. 406; Shear, N. Y. Fung. 112; Kellerman, Ohio Fung. 105; Canada, *Dearness*, *Macoun*; New York, *Earle*, *Atkinson*, *Miss Overacker*, *Murrill*; Delaware, *Commons*; Pennsylvania, *Sumstine*; West Virginia, *Nuttall*; Virginia, *Ricker*; Ohio, *James*, *Lloyd*, *Kelsey*, *Kellerman*; Michigan, *Merrow*; Wisconsin, *Baker*; Alabama, *Earle*; Florida, *Calkins*; Tyrol, *Bresadola* & *Murrill*.

#### **Laetiporus** gen. nov.

Hymenophore annual, epixylous, fleshy, anoderm, caespitose-multiplex; context cheesy to fragile, light-colored, tubes thin-walled, fragile, bright yellow, mouths irregularly polygonal; spores smooth, hyaline.

This genus is based on *Agaricus speciosus* Batarr. Fung. Hist. 68. pl. 34. f. B. 1755, commonly known as *Polyporus sulphureus* Fr. It may be at once distinguished from species of *Grifola* by its yellow color and arboreal habit. The generic name chosen refers to the brilliantly colored hymenium.

#### **Laetiporus speciosus** (Batarr.)

*Agaricus speciosus* Batarr. Fung. Hist. 68. pl. 34. f. B. 1755.

*Boletus sulphureus* Bull. Herb. France, pl. 429. 1788.

*Boletus citrinus* Planer, Ind. Plant. Erf. 26. 1788.



*Polyporus sulphureus* Fr. Syst. 1: 357. 1821.

*Polypilus sulphureus* Karst. Rev. Myc. 3: 17. 1881.

*Polypilus speciosus* Murrill, Jour. Myc. 9: 93. 1903.

This species is widely and abundantly distributed both in Europe and America and is exceedingly well known on account of its size, conspicuous habitat, and bright attractive coloring. The mycelium spreads widely through the trunks of deciduous, and even evergreen, trees, causing serious damage, while the sporophores appear annually in caespitose-multiplex masses at knot-holes on the affected parts. The various names under which the plant has been known all refer to the bright color of these sporophores, which are usually reddish-yellow above and sulfur-yellow below, fading to almost white with age. A few of the numerous collections in which this plant figures are noted here: Sweden, *Murrill*; Maine, *Miss White*; Connecticut, *Miss White*; Delaware, *Commons*; New York, *Peck & Earle*; Pennsylvania, *Everhart & Haines*; New Jersey, *Ellis, Murrill*; Alabama, *Earle*; Louisiana, *Langlois*; Mexico, *Smith*.

#### **Trichaptum** gen. nov.

Hymenophore annual, epixylous, sessile, dimidiate; context brown, firm and leathery below, very loosely fibrous and darker above; tubes short, thin-walled, mouths polygonal, becoming labyrinthiform; spores smooth, hyaline.

The type of this genus is *Polyporus trichomallus* Berk. & Mont. (Ann. Sci. Nat. III. 11: 238. 1849), described from Guiana. It resembles the old-world genus *Funalia* erected by Patouillard in 1900 with *P. mons-veneris* Jungh., *P. leoninus* Kl. and *P. funalis* Fr. as typical species and *P. trichomallus* Berk. & Mont. in a subsection; but it may be easily distinguished from *Funalia* by its darker context and daedaleoid hymenium. While splitting often occurs, rendering the hymenium irpiciform, the splitting is not so radical as in *Funalia*. The name chosen refers to the loosely woven context.

#### **Trichaptum trichomallum** (Berk. & Mont.)

*Polyporus trichomallus* Berk. & Mont. Ann. Sci. Nat. III. 11: 238. 1849.

*Funalia trichomalla* Pat. Tax. Hymen. 95. 1900.

The type plants of this species were collected in the eastern part of Guiana by Poiteau and fully described by Montagne. It has since been frequently collected in many parts of South America and ranges northward to Central America and the West Indies. Plants seen in some herbaria labelled *P. heteromallus* are only large zonate forms of this species. A decidedly sinuous hymenium is present in specimens recently collected in Cuba and Jamaica. Collections are at hand from Bolivia, *Williams*; Colombia, *Baker*; Nicaragua, *Smith*; San Domingo, *Massee*; Jamaica, *Underwood* 2833; Cuba, *Underwood & Earle* 1131.

**Pogonomyces** gen. nov.

Hymenophore annual, epixylous, dimidiate-sessile to flabelliform, thickly covered with rigid hairs; context dark-brown, punky, tubes short, thick-walled, mouths small, circular; spores smooth, hyaline.

This genus is founded upon *Boletus hydnoides* Sw. (Prodr. 149. 1788), described from Jamaica. It may at once be distinguished from *Trichaptum* by its small, cylindrical, very thick-walled tubes. The name selected refers to its thick covering of bristly hairs.

**Pogonomyces hydnoides** (Sw.)

*Boletus hydnoides* Sw. Prodr. 149. 1788. — Fl. Ind. Occid. 3: 1924. 1806.

*Boletus hydnatinus* Bosc, Gesell. Natur. Freunde Mag. 5: 84. pl. 4. f. 3. 1811.

*Polyporus pellitus* Mey. Fl. Esseq. 304. 1818.

*Boletus crinitus* Spreng. Vet. Acad. Handl. 51. 1820.

*Boletus fibrosus* Hook. in Kunth, Syn. Pl. 1: 10. 1822.

*Polyporus Feathermanni* Rav. Grevillea, 6: 130. 1877.

This very abundant tropical species was first described in 1788 from Jamaica. In enlarging his original brief description for the Flora of the West Indies, Swartz also enlarged his description of the type locality to read: "On trees in the mountains of Jamaica." In 1811, Bosc describes and roughly figures the same plant, remarking that "one might use it as the type of a new genus." Meyer later described it from South America under the name of *Polyporus pellitus*, and Sprengel from Porto Rico, as *Boletus crinitus*. Its most recent name was assigned by Ravenel to specimens collected by Featherman at Gainesville, Florida.

The great abundance and striking appearance of this species account for the attention which it has received, but should tend rather to lessen than to increase the list of synonyms. Every expedition to the southern states or the West Indies discovers quantities of it. The following list of specimens will indicate its range: Florida, *Martin, Calkins, Small & Carter* 1319, 1331, 1332, 1351; *Britton* 127, 128, 343, 366, 448, 477; Louisiana, *Langlois* 1280; Cuba, *Underwood & Earle* 374, 1524, 1532, 1538; Porto Rico, *Earle* 30, 52, *Underwood, Wilson* 114; Haiti, *Nash* 24; Jamaica, *Earle* 200, 425b, 189, 619; Yucatan, *Millspaugh*; Colombia, *Baker*; Nicaragua, *Smith, Shimek*; Mexico, *Smith*.

## SPECIES INQUIRENDÆ

*Trametes ocellata* B. & C. Jour. Linn. Soc. Bot. 10: 319. 1868. Investigation had indicated that this species also was synonymous with *P. hydroides*, but the recent discovery of a large-pored specimen by Small and Nash on Totten's Key, Florida, reopens the question and further comparison and probably more material will be necessary in order to settle it satisfactorily. The evanescent membrane mentioned by the authors in connection with this species appears to be present also in *P. hydroides* and cannot serve as a distinguishing character.

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